

### PRODUCT DESCRIPTION

Stonglaze VSE is a multi-layer, impact-resistant, light-stable, flexible urethane wall system for harsh environments. This product is specifically designed for use on vertical surfaces to provide a seamless, smooth, tough surface that promotes a sanitary environment. It is comprised of:

#### **Basecoat**

A two-component urethane membrane.

#### **First Topcoat**

A two-component waterborne, aliphatic, polyurethane coating.

#### **Second Topcoat**

A two-component waterborne, aliphatic, polyurethane coating.

### USES, APPLICATIONS

Stonglaze VSE is specifically designed where impact resistance and minor crack-bridging are desired on a vertical surface. Stonglaze VSE is an ideal wall system for institutional and industrial facilities, for both new construction and renovation. Typical wall applications for Stonglaze VSE include:

- Medical facilities
- Educational facilities
- Pharmaceutical facilities
- Food processing facilities
- Detention facilities

### OPTIONS

#### **Antimicrobial**

Stonplus PROTECT is an antimicrobial, organic thione compound that acts as a long-lasting bacteriostat and fungistat to protect the wall against a broad range of gram-positive and gram-negative bacteria and fungi. Stonplus PROTECT is EPA registered and contains no heavy metals.

### PRODUCT ADVANTAGES

- Excellent bond strength assures superior adhesion
- Seamless and monolithic
- Permanently elastic
- Easily applied to vertical surfaces
- Factory-proportioned packaging ensures consistent, high-quality mixing
- UV Resistance
- High Gloss
- Stain Resistance
- Crack Bridging

### PACKAGING

Stonglaze VSE is packaged in units for easy handling. Each unit contains:

#### **Stonglaze VSE Basecoat**

0.5 carton containing:

6 poly bags of Stonglaze VSE Basecoat Polyol

0.5 carton containing:

6 poly bags of Stonproof ME7/Stonglaze VSE Basecoat Isocyanate

#### **First Topcoat**

##### **Stonglaze VSE Topcoat**

0.75 carton containing:

2 foil bags of Isocyanate

(2) 1 gallon pail of Polyol

#### **Second Topcoat**

##### **Stonglaze VSE Topcoat**

0.75 carton containing:

2 foil bags of Isocyanate

(2) 1 gallon pail of Polyol

### PHYSICAL CHARACTERISTICS

Pot Life .....	Basecoat 20 minutes @ 70°F/21°C
	Topcoat 35 to 40 minutes @ 70°F/21°C
Minimum Dry Film .....	12 to 15 mil/304 to 381 microns
Thickness	
Cure Rate .....	12 hours for tack-free surface
(@ 77°F/25°C)	24 hours minimum for normal operations
Temperature Limitations .....	140°F/60°C
	continuous exposure
	200°F/93°C
	intermittent exposure
Fire Resistance of Dry Film .....	Class B
(ASTM E84)	Flame spread 40
	Smoke developed 115
V.O.C .....	Stonglaze VSE Basecoat - 10 g/l
(ASTM D-2369)	Stonglaze VSE Topcoat - 5 g/l

**Note:** The above physical properties were measured in accordance with the referenced standards. Samples of the actual wall system, including binder and filler, were used as test specimens.

## COVERAGE

Approximately 300 sq. ft./27.9 sq. m per unit at an application thickness of 12 to 15 mil/300 to 380 microns.

## COLOR

Stonglaze VSE is available in 9 colors. Custom colors are available upon request.

## STORAGE CONDITIONS

Store all components of Stonglaze VSE at or above 65°F/18°C in a dry area. Avoid excessive heat. Do not freeze. The shelf life of basecoat is two years, and the topcoat is one year in the original, unopened container.

## SUBSTRATES/PREPARATION

When used in conjunction with its appropriate primer, Stonglaze VSE is suitable for use over wall board, wood, metal, and concrete substrates. These substrates must be clean, dry, and free of any laitance or unbonded materials. Stonglaze VSE is suitable for use over abuse boards and Durock.

Any wall board surface must be finished to a level 1, 2, or 3 drywall finish with an appropriate spackle compound (green board and cement board will require water-resistant drywall compound or setting compound). To ensure excellent, long-term performance, it is critical that Stonglaze VSE is never installed over a level 4 or 5 drywall finish.

Concrete block walls (CMU) must be given sufficient time for the mortar to fully cure. Excess mortar and any residual laitance or debris must be removed by mechanical means prior to installing Stonglaze VSE.

Formed or poured concrete walls must be prepared by mechanical means to remove any laitance or efflorescence and provide a sandpaper texture suitable for bonding.

Previously painted substrates must be inspected to determine the level of drywall finish (for wall boards) and the type of paint. Stonglaze VSE will bond well to prepared epoxy paints, but will not bond to latex, oil, urethane, or acrylic paints. If upon inspection, a level 4 or 5 drywall finish, or one of the previously mentioned paints is found, it must be removed by mechanical means prior to application of the Stonglaze system.

## PRIMING

When priming for wall board applications, including sheetrock, green board, and paperless drywall, Primer 180 should be used to ensure proper adhesion and serve as a sealer coat between the Stonglaze coating and the substrate. The coverage for Primer 180 will be approximately 400 sq. ft./37.16 sq. m per unit over any of the wall boards mentioned. For concrete and concrete masonry unit (CMU) walls, Stonglaze E4 should be used as a primer. The coverage for Stonglaze E4 will fall between 250 to 400 sq.ft/23.23 to 37.16 sq. m per unit depending on the condition and porosity of the substrate.

## MIXING

The components of Stonglaze VSE are mixed just prior to use and must be applied immediately. Mixing is accomplished as follows:

### ***Stonglaze VSE Basecoat***

1. Pour the contents of one bag of polyol and one bag of Iso into a 5-gallon/18.93-liter bucket or appropriate mixing container.
2. Using a heavy-duty, slow-speed drill (400 to 600 rpm) with a mixing paddle or Jiffy mixer, mix the polyol and Iso for a minimum of 120 seconds until well blended.

### ***Stonglaze VSE Topcoat***

1. Using a heavy-duty, slow-speed drill (400 to 600 rpm) with a mixing paddle or Jiffy mixer, premix the polyol for 30 seconds to ensure the suspension of solids.
2. Slowly pour the contents of the bag of isocyanate directly into the one-gallon bucket of polyol.
3. Mix the polyol and Iso for a minimum of 90 seconds until well blended.
4. Pour the contents into a 5-gallon/18.93-liter bucket, paint tray or suitable container for application.

## CURING

The surface of Stonglaze VSE will be tack-free in 12 hours at 77°F/25°C. The coated area may be put into service in 24 hours. Ultimate physical characteristics will be achieved in 7 days.

## POT LIFE

Stonglaze VSE Basecoat has a working time of approximately 20 minutes and the Topcoat URE has a working time of approximately 35-40 minutes both at 70°F/21.1°C. The working time may vary depending upon ambient and surface conditions.

## APPLYING

Stonglaze VSE can be applied at ambient temperatures ranging from 60 to 85°F/16 to 30°C. It is important that the relative humidity is below 70% during the application and cure of the Stonglaze VSE Topcoat to allow the material to cure properly. Stonglaze VSE can be roller or spray applied as follows:

## **Roller Application**

### **Stonglaze VSE Basecoat**

Stonglaze VSE Basecoat must be applied immediately after mixing the two components. The Basecoat may be applied using a 3/8 in. to 1/2 in./10 mm to 13 mm nap roller. Dip and roll the Basecoat onto the wall surface at a thickness of 10 to 12 mils/250 to 300 microns (wft). Immediately after rolling the coating on the wall, a saturated nap roller should be used to remove roller lines and drips. Finish roll on one direction only, picking the roller up between passes.

If a thicker finish is required, additional layers of VSE Basecoat may be applied per the above method once the first layer has cured. Installing the Basecoat thicker than 15 mils in one coat is not recommended and may result in drips and runs.

### **Stonglaze VSE Topcoat**

Two layers of Stonglaze VSE Topcoat are required to ensure proper coverage and hiding of the Basecoat. Stonglaze VSE Topcoat must be applied immediately after mixing the two components. The Topcoat may be applied using a 1/4 in. to 3/8 in. /6 mm to 10 mm nap roller. Dip and roll the Topcoat onto the wall surface at a thickness of 4 to 6 mils/101 to 152 microns (wft).

Immediately after rolling the coating on the wall, a saturated nap roller should be used to remove roller lines and drips. Finish roll in one direction only, picking the roller up between passes.

Application of the second coat of Topcoat can begin once the first layer is cured. Installing the Topcoat thicker than 8 mils in one coat is not recommended and may result in drips and runs.

## **CHEMICAL RESISTANCE GUIDE**

The purpose of this guide is to aid in determining the potential value of Stonglaze VSE when exposed to the damaging effects of corrosive chemical environments.

### **RATING CODE**

E – Excellent

G - Good

NR - Not Recommended

OS - Suitable for use where “occasional spillages” occur, when flushing with water immediately follows.

### **ACIDS**

#### **RATING**

Acetic - 5% .....	G
Acetic - 20% .....	OS
Acetic - Glacial .....	NR
Benzoic - Sat. 3% .....	E
Boric - Sat. 30% .....	E
Butyric - 10% .....	OS
Chromic - 10% .....	G
Chromic - 20% .....	OS
Citric - 50% .....	E
Cresylic .....	OS
Diglycolic .....	G
Fatty .....	G
Fluoboric .....	G
Formic - up to 10% .....	OS
Heptanoic .....	OS
Hydrochloric - 15% .....	G
Hydrochloric - 37% .....	OS
Hydrofluoric 5% .....	G
Hydrofluoric - 10% .....	OS
Hypochlorous - 5% .....	E
Lactic - up to 20% .....	OS
Maleic - 30% .....	OS
Maleic - 40% .....	OS
Nitric - 10% .....	G
Nitric - 30% .....	OS
Oleic .....	G
Oxalic - Sat .....	E
Perchloric - 35% .....	OS
Phosphoric - up to 50% .....	OS
Picric - Sat .....	E
Phthalic .....	G
Succinic - Sat .....	E
Sulfuric - 20% .....	E
Sulfuric - 50% .....	OS
Sulfuric - 70% .....	OS
Tannic - Sat .....	G
Tartartic - Sat .....	E

### ALKALIS AND SALTS

Stonglaze VSE is rated *Good* to *Excellent* when exposed to most alkalis and salts.

### SOLVENTS AND OTHER CHEMICALS

#### RATING

Acetone .....	NR
Alcohol (Methyl).....	OS
Alcohol (Ethyl, Propyl, Isopropyl, Butyl) .....	G
Benzene .....	OS
Carbon Tetrachloride.....	OS
Corn Oil .....	E
Cyclohexane.....	OS
Denatured Alcohol.....	NR
Ethylene Glycol .....	G
Ether .....	OS
Formaldehyde .....	OS
Gasoline .....	E
Glycerine .....	E
Hydrogen Peroxide - 10% .....	NR
JP5 Jet Fuel .....	G
Juices - Fruit .....	E
Juices - Vegetable .....	E
Lard .....	G
Linseed Oil .....	G
Methyl Ethyl Ketone .....	NR
Methylene Chloride .....	NR
Milk .....	E
Mineral Spirits.....	G
Naphtha .....	OS
Oils - Cutting .....	G
Oils - Mineral .....	E
Oils - Vegetable .....	G
Perchloroethylene .....	OS
Skydrol .....	G
Sucrose - Sat. (Sugar).....	E
Toluene .....	OS
Trichloroethylene .....	NR
Urea.....	G
Vinegar (Household) .....	G
Water .....	E
Xylene .....	OS

**Note:** This data is based on laboratory tests performed under carefully controlled conditions. (All solutions are at ambient temperatures.) No warranty can be expressed nor implied regarding the accuracy of this information as it will apply to actual plant operation or job site use. Plant operations and job site uses vary widely, and the individual results obtained are affected by the specific conditions encountered, which are beyond our control.

#### SPRAY APPLICATION

To spray Stonglaze VSE, suitable NIOSH/ approved respirators should be worn by all personnel in the area. Stonglaze VSE Basecoat can be spray applied in a single application at a thickness ranging from 10 to 15 mil/254 to 380 microns (WFT.) Spray applying this material should be done using the Graco King System or comparable equipment with the following specifications:

63:1 pump - 2 1/2 gallons per minute  
0.019 - 0.035-inch spray tip  
3,000 - 4,000 psi spray tip pressure

It is recommended that the spray equipment be purged with Xylene every 30 minutes of use to avoid potential line damage. It should also be noted that the finished texture of a sprayed surface will be much smoother than the orange peel texture that is associated with roller applications. For more information on spraying Stonglaze VSE, contact Stonhard's Technical Service Department.

#### CURING

The surface of Stonglaze VSE will be tack-free in 12 hours at 77°F/25°C. The coated area may be put back into service in 24 hours. Ultimate physical characteristics will be achieved in 7 days.

## RECOMMENDATIONS

- Apply only on a clean, sound and properly prepared substrate.
- Minimum ambient and surface temperatures are 60°F/16°C at the time of application.
- Do not use water or steam in the vicinity of the application. Moisture can seriously affect the working time and properties of the material.
- Application and curing times are dependent upon ambient and surface conditions.

## PRECAUTIONS

- Application time (20 minutes) and curing time (24 hours) are dependent upon ambient conditions.
- The use of safety glasses and impervious gloves are required.
- In case of contact, flush the area with copious amounts of water for 15 minutes and seek medical attention. Wash skin with soap and water.
- The use of NIOSH-approved respirators with organic vapor/acid gas cartridges is required when spray applying this product.
- Material, air and substrate temperatures should be 60 to 85°F/16 to 30°C during installation.

## NOTES

- Procedures for maintenance of the Stonglaze system during operations are described in the Stonkleen Cleaning Procedures Brochure.
- For environments not referenced in the Chemical Resistance Guide, consult Stonhard's Technical Service Department for recommendations.
- Safety Data Sheets for Stonglaze VSE are available online at [www.stonhard.com](http://www.stonhard.com) under Products or upon request.
- A staff of technical service engineers is available to assist with product application or to answer any questions related to Stonhard products.
- Requests for technical literature or service can be made through local sales representatives and offices, or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high-gloss coatings are subject to a reduction in gloss, while matte-finish coatings can increase in gloss level under normal operating conditions.

### IMPORTANT:

Stonhard believes the information contained here to be true and accurate as of the date of publication. Stonhard makes no warranty, expressed or implied, based on this literature and assumes no responsibility for consequential or incidental damages in the use of the systems described, including any warranty of merchantability or fitness. Information contained here is for evaluation only. We further reserve the right to modify and change products or literature at any time and without prior notice.

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